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10/564,826	06/21/2006	Meinhard Schwaiger	66376-374	3227

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EXAMINER

SANTOS, ROBERT G

ART UNIT	PAPER NUMBER
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3673

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,826	Applicant(s) SCHWAIGER ET AL.	
	Examiner Robert G. Santos	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2006 and on 21 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060118</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 30, 31, 36, 37, 45, 47, 48 and 56-58 are objected to because of the following informalities:

- 1) In claim 30, line 2: The term “last” should be changed to --least--.
- 2) In claim 31, line 3; in claim 37, line 2 and in claim 47, line 3: The term "cushion" should be changed to --cushions--.
- 3) In claim 36, line 1 and in claim 58, line 2: The term "the” should be changed to --each--.
- 4) In claim 45, line 1: The phrase “claims 30” should be changed to --claim 32--.
- 5) In claim 48, line 1: The phrase --walls of the-- should be inserted before the term “foam”.
- 6) In claim 48, line 2: The phrase “the walls of” should be deleted.
- 7) In claim 56, line 1: The number “54” should be changed to --55--.
- 8) In the first line of claims 57 and 58: The number "1" should be changed to --30--.
- 9) In claim 57, line 2: The second instance of the term “the” should be changed to --each--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 30, 33-35, 39-41 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,836,027 to Leventhal et al. As concerns claims 30 and 33, Leventhal et al. show the claimed limitations of an air-permeable mattress (12) comprising a foam core (18) and air-filled pressure cushions (24) configured as hollow cylinders, wherein the pressure cushions are arranged in openings or through holes (40) of the foam core (see Figures 1-3; column 5, lines 27-29 & 38-41; and column 6, lines 47-61). As concerns claims 34 and 35, the reference is considered to show conditions wherein the arrangement of the pressure cushions is adjusted to the body zones of a user and wherein individual pressure resistances for each zone can be pre-selected in Figure 3 and in column 6, lines 27-46).

With respect to claims 39 and 40, the reference discloses conditions wherein the pressure cushions are arranged next to one another and are joined by means of connecting elements (34-36), so that a pressure compensation occurs via several pressure cushions that are mutually joined in a cross-wise manner such that they are combined into one zone (37, 38 or 39) (see Figure 3 and column 6, lines 17-27). As concerns claim 41, the reference is considered to show a condition wherein the foam core consists of one layer in Figures 1, 2 & 11 and column 6, lines 47-61. As concerns claim 44, the reference discloses a condition wherein the lying surface of the mattress is subdivided into several zones, preferably three to five zones, with the pressure

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cushions of each zone being mutually connected by means of connecting elements and are each associated with a control valve (see Figure 3 and column 6, lines 17-46).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 31, 32 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of U.S. Pat. No. 4,536,906 to Varndell et al. Leventhal et al. do not specifically disclose the use of upper and bottom support layers each made of an air-permeable material, and additional openings provided in the foam core spaced from the pressure cushions. Varndell et al. provide the basic teaching of a mattress comprising a foam mattress body (10), an air-permeable cover (61) that completely encloses the body of the mattress, and additional openings (27) formed in the mattress body (see Figures 1, 2 & 4; column 2, lines 8-30 & 64-68; and column 3, lines 1-7). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with upper and bottom support layers each made of an air-permeable material, and additional openings provided in the foam core spaced from the pressure cushions, in order to impart increased ventilation to a user positioned on the mattress, thereby helping to provide enhanced user comfort.

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6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of U.S. Pat. No. 2,192,601 to Mattison. Leventhal et al. do not specifically disclose a condition wherein each pressure cushion (24) is configured as a solid cylinder. Mattison provides the basic teaching of a mattress (2) comprising a foam core and pressure cushions (8) arranged in openings formed within the foam core, wherein each pressure cushion is configured as a solid cylinder (see Figures 1-3; column 2, lines 33-35 & 47-55; and column 3, lines 1-3). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with pressure cushions each being configured as a solid cylinder in order to adjust further the firmness of the mattress, thereby further providing enhanced user comfort and support.

7. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of U.S. Pat. No. 4,852,195 to Schulman. Leventhal et al. do not specifically disclose a condition wherein the pressure cushions (24) are composed of several segments which are arranged to as to lie one above the other, with a pressure compensation occurring by means of internal connecting openings. Schulman provides the basic teaching of a plurality of pressure cushions (12, 14, 16) each composed of several segments (40, 42, 44) which are arranged to as to lie one above the other, with a pressure compensation occurring by means of internal connecting openings (see Figures 4, 5 & 7-10 and column 6, lines 22-42). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with pressure cushions each composed of several segments which are arranged to as to lie one above the other, with a pressure compensation occurring by means of internal connecting

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openings, in order to increase the resiliency of the mattress support surface, thereby also helping to impart enhanced user comfort.

8. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of U.S. Pat. No. 3,846,857 to Weinstock. Leventhal et al. do not specifically disclose a condition wherein the foam core (18) is composed of at least two layers with different degrees of hardness. Weinstock provides the basic teaching of a foam mattress body (10) composed of at least two layers (12-15) with different degrees of hardness (see Figure 2; column 1, lines 61-67; and column 2, lines 1-32). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with a foam core composed of at least two layers with different degrees of hardness in order "to promote maximum comfort and to minimize the occurrence and severity of decubitus ulcers or bed sores" (see Weinstock '857, column 1, lines 23-29).

9. Claims 43 and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of U.S. Pat. No. 5,586,347 to Frischknecht. Leventhal et al. do not specifically disclose the use of a controllable valve for adjusting the pressure in a specific zone of pressure cushions; an air pump composed of elastic elements and valves, wherein the air pump is arranged in the foam core so that an air conveying process is enabled as a result of a shifting of weight of a person lying on the mattress; and wherein the air pump cooperates with a pressure control device for compensating a pressure loss as a result of leakage loss or for building up a purposeful increase in pressure in the pressure cushion. Frischknecht provides the basic teaching

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of a mattress comprising a controllable valve (5, 15) for adjusting the pressure of an air cell (4); an air pump (1) composed of elastic elements and valves, wherein the air pump is arranged in a foam core (9) so that an air conveying process is enabled as a result of a shifting of weight of a person lying on the mattress; and wherein the air pump cooperates with a pressure control device (5) for compensating a pressure loss as a result of leakage loss or for building up a purposeful increase in pressure in the air cell (see Figures 1-4; column 1, lines 30-65; column 2, lines 16-25, 49-65; and column 3, lines 16-21). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with a controllable valve for adjusting the pressure in a specific zone of pressure cushions; an air pump composed of elastic elements and valves, wherein the air pump is arranged in the foam core so that an air conveying process is enabled as a result of a shifting of weight of a person lying on the mattress; and wherein the air pump cooperates with a pressure control device for compensating a pressure loss as a result of leakage loss or for building up a purposeful increase in pressure in the pressure cushion, in order to facilitate regulation of the air flow to and air exhaust from the pressure cushions, thereby further ensuring enhanced user comfort and support.

10. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of Frischknecht '347 as applied to claim 45 above, and further in view of U.S. Pat. No. 5,007,123 to Salyards. Leventhal et al., as modified by Frischknecht, does not specifically disclose a condition wherein the walls of the foam core with the through holes are covered entirely by an air-tight layer. Salyards provides the basic teaching of a mattress (11) comprising a foam core (13) completely enclosed within a substantially air-tight cover (15) (see

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Figure 1; column 3, lines 42-49 & 61-65; and column 4, lines 3-8). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al., as modified by Frischknecht, with an air-tight layer that covers the walls of the foam core with the through holes in order to "minimize moisture, vapor and bacterial build-up within the mattress core", thereby promoting the health of a patient positioned on the mattress while also extending the service life of the mattress (see Salyards, column 1, lines 15-16).

As concerns claim 49, Frischknecht also teaches the use of a controllable non-return valve (3) (see Figures 1 & 2 and column 1, lines 34-35 and column 2, lines 23-24).

11. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of Frischknecht '347 and further in view of Salyards '123 as applied to claim 48 above, and further in view of Weinstock '857. Leventhal et al., as modified by Frischknecht and as further modified by Salyards, do not specifically disclose a condition wherein the through holes with foam cylinders are filled with especially air-permeable foam material. Weinstock provides the basic teaching of a foam mattress body (10) comprising portions (12-14) formed from open cell foam material (see Figure 2; column 1, lines 64-67; and column 2, lines 11-16). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with through holes having foam cylinders filled with especially air-permeable foam material since the use of this type of material in the manufacture of foam mattress assemblies has long been known in the art as taught by Weinstock.

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12. Claim 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of Frischknecht '347 and further in view of Salyards '123 as applied to claim 48 above, and further in view of U.S. Pat. No. 4,042,988 to Holliday. As concerns claims 51 and 54, Leventhal et al., as modified by Frischknecht and as further modified by Salyards, do not specifically disclose a condition wherein the pressure cushions (24) are arranged in openings in the foam core transversely to the longitudinal axis and parallel to the lying surface. Holliday provides the basic teaching of a mattress (10) comprising a foam core (18) and a plurality of pressure cushions (24) that are arranged in openings (20) in the foam core transversely to the longitudinal axis and parallel to the lying surface (as shown in Figures 2 & 4 and as described in column 2, lines 11-16). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al., as modified by Frischknecht and as further modified by Salyards, with pressure cushions arranged in openings in the foam core transversely to the longitudinal axis and parallel to the lying surface in order to provide an alternative support configuration as desired.

As concerns claims 52 and 53, Leventhal et al., as modified by Frischknecht and as further modified by Salyards and Holliday, do not specifically disclose conditions wherein at least one pressure cushion is arranged in a zone with high pressure hardness as lordosis support and wherein the lying surface of the mattress is subdivided into seven zones. The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al., as modified by Frischknecht and as further modified by Salyards and Holliday, with at least one pressure cushion arranged in a zone with high pressure hardness as lordosis support and with a lying surface that is subdivided into seven zones, since these types of

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modifications would have generally been recognized as being within the level of ordinary skill in the art.

13. Claim 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of Frischknecht '347 and Salyards '123 and further in view of Holliday '988 as applied to claim 54 above, and further in view of U.S. Pat. No. 5,115,527 to Medley. Leventhal et al., as modified by Frischknecht and as further modified by Salyards and Holliday, do not specifically disclose a condition wherein fresh air can be supplied to the mattress through openings which are arranged parallel to the lying surface and penetrate the width of the mattress. Medley provides the basic teaching of a mattress (1) comprising a plurality of openings (4) which are arranged parallel to the lying surface (2) of the mattress and penetrate the width of the mattress (see Figures 1, 2 & 4; column 2, lines 9-66). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al., as modified by Frischknecht and as further modified by Salyards and Holliday, with openings which are arranged parallel to the lying surface and penetrate the width of the mattress and which supply fresh air to the mattress in order to "keep [a] patient [lying on the mattress] cool (by dispersing heat) and dry, eliminating skin tissue maceration, and obviating pathogenic growth and cross infection (see Medley '527, column 2, lines 59-66).

14. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of Frischknecht '347, Salyards '123, Holliday '988 and further in view of Medley '527 as applied to claim 56 above, and further in view of U.S. Pat. No. 2,493,067 to Goldsmith.

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Leventhal et al., as modified by Frischknecht and as further modified by Salyards, Holliday and Medley, do not specifically disclose a condition wherein a blower is provided for conveying the air. Goldsmith provides the basic teaching of a mattress (11) provided with a plurality of openings (19) formed therein, wherein a blower (29) forces air through the openings (see Figure 1 & 2; column 2, lines 47-60; and column 3, lines 1-16 & 29-44). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al., as modified by Frischknecht and as further modified by Salyards, Holliday and Medley, with a blower for conveying the air since the use of a blower for generating air flow through openings formed in the body of a mattress has long been known in the art as taught by Goldsmith.

15. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027 in view of U.S. Pat. No. 5,802,640 to Ferrand et al. Leventhal et al. do not specifically disclose a condition wherein sound-insulating material is provided in the inflow and outflow region of each pressure cushion (24). Ferrand et al. provide the basic teaching of a mattress (104) comprising a plurality of air cells (220, 222) each being provided with a valve (814) which functions as a sound baffle (see Figures 1, 2, 43, 44A & 44B; column 38, lines 66-67; and column 39, lines 1-6). The skilled artisan would have found it obvious at the time the invention was made to provide the mattress of Leventhal et al. with sound-insulating material is provided in the inflow and outflow region of each pressure cushion in order to impart further enhanced user support and comfort.

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16. Claims 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leventhal et al. '027. Leventhal et al. do not specifically disclose a condition wherein the system overpressure in each pressure cushion (24) lies "between 0.1 bar and 0.6 bar" or is "between 0.15 and 0.30 bar." It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide each pressure cushion of the mattress of Leventhal et al. with a system overpressure which falls "between 0.1 bar and 0.6 bar" or is "between 0.15 and 0.30 bar", since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wilkinson '534, Schwaiger et al. '133, Chase '797, Chase '130, Ferrand et al. '598, Wilkinson et al. '952, Wilkinson '905, Fleming et al. '920, Ferrand et al. '408, Chase '880, Ferrand et al. '776, Walpin '908, Hoffmann '856, Ferrand et al. '017, Ferrand et al. '016, Wilhoit '514, Toedter '731, Fahy '218, Castronovo, Jr. '765, Harper '614, McLeod '734, Greenawalt '034, McLeod '594, Boyles '417, Slemmons '042 and Schick '601.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert G. Santos whose telephone number is (571) 272-7048. The examiner can normally be reached on Monday through Friday, 11:00 a.m. to 7:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571) 272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert G. Santos/
Primary Examiner, Art Unit 3673